

ABSTRACT

5 An amplified laser source for amplifying a laser projection that includes a diode laser source modulated by a pulse generator applying an alternate high and low voltages higher and lower than a threshold voltage for projecting a modulated optical signal. The laser source further includes a first erbium-doped fiber (EDF) for amplifying the modulated optical signal. The laser source further includes a set of Bragg gratings for receiving the modulated optical signal from the first EDF for reflecting a 10 grating-specific pulse-distortion-reduced optical signal. The laser source further includes an electro-absorption (EA) modulator synchronized with the pulse generator for increasing an extinction ratio of the optical signals. The laser source further includes a second erbium doped fiber (EDF) for receiving and amplifying the optical signal from the EA modulator 15 wherein the second erbium doped fiber (EDF) having a length of several meters and a diameter greater than or equal to thirty-five micrometers.